

STATE OF MAINE
PUBLIC UTILITIES COMMISSION

Docket No. 2000-95

May 11, 2000

PUBLIC UTILITIES COMMISSION
Summary Investigation into Accident in
Industry, Maine on December 12, 1999

INTERIM ORDER

I. SUMMARY

We accept Staff's recommendations resulting from this summary investigation and direct Central Maine Power Company (CMP) to undertake certain additional reviews of its work and safety rules and report back to the Commission on the results of those reviews by June 30, 2000. We also ask CMP to provide further justification for its new work/rest policy.

II. BACKGROUND

On December 12, 1999, Central Maine Power Company notified the Commission that CMP Lineworker 1st Class T&D Brent R. Churchill had been electrocuted earlier that day while performing storm restoration repair work in Industry, Maine. CMP notified the Commission of this accident and subsequently provided a written report of the accident, as required by Chapter 130. In the case of accidents resulting in the loss of life, 35-A M.R.S.A. § 710 requires that "the commission shall cause an investigation of the accident to be made immediately." The Commission Staff began gathering information upon receipt of that notice, and on February 15, 2000 we commenced this summary investigation of the accident pursuant to 35-A M.R.S.A. §§ 710 and 1303(1), and Chapter 130 of the Commission's Rules.

We opened this summary investigation "to investigate the acts and practices of Central Maine Power Company related to the fatal accident before, during, and following the accident." *Public Utilities Commission, Summary Investigation into Accident in Industry, Maine on December 12, 1999*, Docket No. 2000-95, Notice of Summary Investigation (Feb. 15, 2000) (NOI) at 1. The NOI listed eight issues to be addressed, to the extent that they may have contributed to that accident. These include:

1. Do work procedures conform to the current National Electrical Safety Code (NESC)?
2. Do facilities conform to NESC requirements?
3. Is appropriate safety equipment available?
4. Are safety rules and procedures adequate and clear?
5. Are safety rules and procedures communicated to employees and enforced?

6. Do safety rules address qualifications, training, and experience of assisting employees?
7. Do safety rules address work/rest durations?
8. Are commitments to safety being maintained?

III. INVESTIGATION

The Staff investigated CMP's acts and practices as provided in the NOI. The Staff identified six areas where it believes further follow-up action is needed, and on April 12, 2000 forwarded its recommendations to CMP. On April 28, 2000, CMP responded to the Staff recommendations. In its response, CMP stated that while it did not necessarily agree with the basis for the recommendations as characterized by the Staff, CMP agreed to implement those recommendations.

The Staff made the following findings in six areas where it recommended further CMP action. Those recommendations, and the nature of CMP's concurrence with them, are described below.

1. Applicable standards.

- a. Staff Findings. Title 35-A M.R.S.A. § 2305-A(2) requires that each electric utility design, construct, operate and maintain its lines and equipment in conformance with the applicable provisions of the most recent edition of the National Electrical Safety Code (NESC). The code "covers basic provisions for safeguarding of persons from hazards arising from the installation, operation, or maintenance of 1) conductors and equipment in electric supply stations, and 2) overhead and underground electric supply and communication lines. It also includes work rules for the construction, maintenance, and operation of electric supply and communication lines and equipment." NESC Code (1997 Ed.) at (i). The Staff found that CMP regularly reviews its safety program based on requirements of the federal Occupational Safety and Health Administration (OSHA) contained in 29 CFR § 1910.269, which contains provisions similar, but not identical, to those in the NESC. The NESC, for example, is more directed to the prevention of electric shock than OSHA requirements. Because CMP has not reviewed its own safety program to harmonize it with NESC requirements, however, it cannot be demonstrated without further extensive review that all safety practices required by NESC were incorporated into CMP work rules at the time of the accident, and if not whether they would have had any effect on the outcome.
- b. Staff Recommendation. Pursuant to State law, CMP must ensure that its operations are fully consistent with the NESC, even if many of the provisions of that standard may also be reflected in OSHA rules. CMP

should immediately conduct a review of all work rules, safety instructions, policies, and other work requirements to ensure they completely satisfy current NESC requirements, and should conduct a similar review each time the NESC is updated in the future.

- c. CMP Concurrence. CMP expressed its belief that “because CMP is in complete compliance with the OSHA regulations, CMP also meets or exceeds the NESC.” CMP agreed, nevertheless, to “ensure compliance with the NESC” as required in State law.

2. Tagging.

- a. Staff Findings. CMP requirements for tagging lines de-energized for maintenance appear to require a significant amount of administrative work on the part of field personnel. If tagging rules are not observed regularly, perhaps due to their complexity or administrative burden, or not enforced strictly, they are likely to be ineffective.
- b. Staff Recommendation. CMP should re-examine its tagging rules to ensure they achieve the desired effect on worker safety.
- c. CMP Concurrence. CMP stated its belief that “neither NESC nor OSHA standards require tagging of distribution circuits under the circumstances involved in this accident.” CMP agreed, however, to re-examine its work and safety and work rules in this area as recommended by the Staff.

3. Verifying de-energized status.

- a. Staff Findings. Before the accident, the CMP team attempted unsuccessfully to use physical force to assist a pole-mounted switch cutout to open. This technique is questionable, particularly if it does not provide a positive indication of whether the circuit involved is de-energized.
- b. Staff Recommendation. CMP should re-examine work rules to ensure that all practices related to verifying that circuits or equipment are de-energized reflect safe and reliable techniques.
- c. CMP Concurrence. CMP stated that use of a sledgehammer to open a pole mounted switch cutout “is not an accepted work practice” (emphasis in original). CMP stated, that it would re-examine work and safety rules in this area as the Staff recommended.

4. Verbal communications between employees.

- a. Staff Findings. The NESC requires repeating of messages between each employee concerned with switching of lines and equipment. Ineffective communications between the two workers involved were implicated in this accident.
- b. Staff Recommendation. CMP should review all work rules to ensure that NESC requirements related to verbal communications between employees are incorporated into all applicable rules, and should conduct refresher training for all employees on these requirements as provided in the NESC.
- c. CMP Concurrence. CMP stated that rules related to confirming verbal communications between employees “did not apply to this type of a distribution line repair.” CMP agreed, however, to re-examine work and safety rules in this area, as recommended by the Staff.

5. Qualifications of assisting employees.

- a. Staff Findings. The CMP employee assisting Mr. Churchill at the time of the accident did not have Mr. Churchill's experience, training, or qualifications, a contributing factor to the accident. CMP has modified its rules addressing the qualifications and training of employees assigned to assist others, and on February 24, 2000 reached agreement on this issue with its union.
- b. Staff Recommendation. CMP should update its Safety Instructions with the agreed-upon changes and incorporate them into employee training programs, and notify the Commission when those actions have been completed.
- c. CMP Concurrence. CMP stated it “has implemented almost all of the proposed work rule and safety policy changes approved in February” and will notify the Commission when it completes all those actions.

6. Work/rest durations.

- a. Staff Findings. Due to weather conditions in the days before the accident, Mr. Churchill had worked extended hours, and his fatigue contributed to the accident. OSHA noted the fatigue issue in a letter to CMP and recommended that CMP adopt a work/rest policy under which employees would normally be given an 8-hour rest period after a 16-hour work day. On February 24, 2000, CMP reached an agreement with its union on a work/rest policy that limits employee work hours to 17 hours followed by a 7-hour rest period under most circumstances.

- b. Staff Recommendation. CMP should explain in detail how it evaluated the OSHA recommendation and why it decided to adopt a less restrictive policy.
- c. CMP Concurrence. CMP stated that although OSHA recommended a mandatory work/rest policy, it only “suggested a formula of 16/8.” CMP stated that “after considering these factors, as well as the experience of other utilities and the feedback of our experienced employees, we reached a negotiated agreement with the union on the final 17/7 policy.” CMP stated its intent to monitor and re-evaluate the effectiveness of this policy periodically.

After reviewing CMP's responses, the Staff recommended that the Commission direct CMP to report back to the Commission no later than June 30, 2000 describing the results of its reviews under Recommendations 1, 2, and 3. With regard to Recommendation 2, NESC 444c requires tagging of “all switches and disconnectors through which electric energy may be supplied,” although CMP stated that tagging was not required “under the circumstances involved in this accident.” The Staff recommended that CMP re-examine its rules in light of this NESC requirement. With regard to Recommendation 4, the Staff believes that the NESC requirement for confirmation of communications between employees, contained in NESC 442G, applies to distribution circuits, although CMP stated it does not. The Staff noted that NESC section contains some specific exceptions related to distribution circuits, and the NESC defines a “switch” broadly in such a way to include a pole-mounted cutout such as the one contributing to this accident. The Staff recommended that the Commission direct CMP to ensure that its work and safety rules require each employee receiving an oral message concerning the opening or closing of a circuit immediately repeat it back to the sender and obtain the identity of the sender, and that each employee sending such an oral message shall require it to be repeated back by the receiver and secure the latter's identity. The Staff further recommended that the Commission direct CMP to report back to the Commission no later than June 30, 2000 on the implementation of this recommendation and that the Commission close this summary investigation.

IV. CONCLUSION

We agree with Staff's recommendations except we will not terminate this summary investigation until CMP reports back to us by June 30, 2000 on the implementation of recommendations 1 - 4. CMP also should notify the Commission when it has implemented all of the new work rules and safety policy changes in Recommendations 5. We further direct CMP to provide additional support for why the 17/7 work/rest policy is satisfactory from a safety perspective. Any other interested persons are also invited to comment on the work/rest policy. CMP's response and any other comments should be filed by June 30, 2000. After we receive this additional

information, we will decide if further Commission action is warranted or whether to close the summary investigation.

Dated at Augusta, Maine, this 11th day of May, 2000.

BY ORDER OF THE COMMISSION

Raymond Robichaud
Acting Administrative Director

COMMISSIONERS VOTING FOR: Welch
 Nugent
 Diamond